

**WEST**

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L7: Entry 5 of 6

File: DWPI

Jan 30, 1989

DERWENT-ACC-NO: 1989-232947

DERWENT-WEEK: 198932

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TITLE: Iron for castings undergoing friction and cyclic loads - contains silicon, manganese, chromium, copper, molybdenum, vanadium, phosphorus, nitrogen, antimony, niobium and rare earth(s)

INVENTOR: BONDAREV, M M; GROMYKO, I M ; MIKHAILOVS, V M

PRIORITY-DATA: 1987SU-4281075 (July 13, 1987)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
SU 1454873 A	January 30, 1989		004	

INT-CL (IPC): C22C 37/00

ABSTRACTED-PUB-NO: SU 1454873A

BASIC-ABSTRACT:

The iron contains (in wt. %): C 3.2-4.5, Si 2.0-2.8, Mn 0.1-0.4, Cr 0.6-1.2, Cu 0.8-1.4, Mo 0.6-1.0, V 0.2-0.6, P 0.2-0.6, N2 0.01-0.02, Sb 0.02-0.04, rare earth elements 0.005-0.01 and balance Fe.

Cr is a strong carbide-forming element that increases the hardness and wear resistance of the iron significantly.

ADVANTAGE - The impact-fatigue is increased, while the level of wear-resistance is maintained.

In an example, the impact-fatigue durability was raised from 110 to 166 times 10 power 2 cycles before failure. The wear resistance factor was reduced at the same time from 1.8 to 1.1g. Bul.4/30.1.89.

ABSTRACTED-PUB-NO: SU 1454873A

EQUIVALENT-ABSTRACTS:

CHOSEN-DRAWING: Dwg.0/0

**WEST**

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L1: Entry 14 of 20

File: DWPI

Aug 15, 1984

DERWENT-ACC-NO: 1985-061393  
DERWENT-WEEK: 198510  
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TITLE: Grey cast iron - contains carbon, silicon, manganese, titanium, iron, and additional molybdenum, calcium and rare earth metal or antimony

INVENTOR: KARPENKO, M I; SEREBRYAKO, Y U G ; SVYATKIN, B K

PATENT-ASSIGNEE:

ASSIGNEE

CODE

CORRESPONDANCE POLY

CORRR

PRIORITY-DATA: 1983SU-3602652 (April 21, 1983)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
SU 1108123 A	August 15, 1984		004	

APPLICATION-DATA:

PUB-NO	APPL-DATE	APPL-NO	DESCRIPTOR
SU 1108123A	April 21, 1983	1983SU-3602652	

INT-CL (IPC): C22C 37/00

ABSTRACTED-PUB-NO: SU 1108123A  
BASIC-ABSTRACT:

Addn. of Mo, Ca and rare earth metal or Sb to grey cast iron, increases its wear resistance and machinability. The mixt. contains (in wt.%): C 2.2-3.3, Si 2.2-3.2, Mn 0.5-1.2, Ti 0.3-0.8, Mo 0.1-0.9, Ca 0.03-0.20, rare earth metal or Sb 0.02-0.1 and Fe the rest.

A typical mixt. contains (in wt.%): C 2.2, Si 3.2, Mn 0.5, Ti 0.3, Mo 0.1, Ca 0.03, Sb 0.02, S 0.02 and P 0.07. Tests show that addn. of the above listed metals increases tensile strength of the material from 256 to 312-368 MPa and working life of the element from 72 to 106-162 hours, and reduces wear under 5 MPa load with sliding friction, from 84 to 45-72 mg/km.

USE - Mfr. of elements for friction nodes, etc. Bul.30/15.8.84

CHOSEN-DRAWING: Dwg.0/0

TITLE-TERMS: GREY CAST IRON CONTAIN CARBON SILICON MANGANESE TITANIUM IRON ADD MOLYBDENUM CALCIUM RARE EARTH METAL ANTIMONY

DERWENT-CLASS: M27

CPI-CODES: M27-A03; M27-A03M; M27-A03S; M27-A03T;

SECONDARY-ACC-NO:

CPI Secondary Accession Numbers: C1985-026758

# WEST Search History

DATE: Wednesday, February 26, 2003

## Set Name Query side by side

## Hit Count Set Name result set

*DB=USPT,PGPB,JPAB,EPAB,DWPI; PLUR=YES; OP=OR*

L13	L12 and ((gray or flake ) near (iron))	19	L13
L12	L10 and (cast near iron)and (flake or gray)	90	L12
L11	L10 and (cast near iron)	349	L11
L10	(c or carbon) and (si or silicon) and (mn or manganese) and (mo or molybdenum) and (clutch or friction)	2842	L10
L9	(c or carbon) and (si or silicon) and (mn or manganese) and (mo or molybdenum) and 148/321.ccls.	69	L9
L8	(c or carbon) and (si or silicon) and (mn or manganese) and (mo or molybdenum) and 420/27.ccls.	24	L8
L7	L6 and (c or carbon) and (si or silicon) and (mn or manganese) and (mo or molybdenum)	6	L7
L6	cast near iron near (friction or clutch)	64	L6
L5	L1 and clutch	1	L5
L4	L1 same clutch	1	L4
L3	L1 same brake	1	L3
L2	L1 same friction	1	L2
L1	(c or carbon) same (si or silicon) same(mn or manganese) same (mo or molybdenum) same (grey near cast near iron)	20	L1

END OF SEARCH HISTORY

# WEST Search History

DATE: Wednesday, February 26, 2003

## Set Name Query

side by side

Hit Count Set Name  
result set

*DB=USPT,PGPB,JPAB,EPAB,DWPI; PLUR=YES; OP=OR*

L7	L6 and (c or carbon) and (si or silicon) and (mn or manganese) and (mo or molybdenum)	6	L7
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END OF SEARCH HISTORY